OIPE 16X1

Serial Number: 09/359,300 A   ~~ENTERED~~

CRF Processing Date: 5/22/2002
Edited by: _____
Verified by: _____ (STIC staff)

☐ Changed a file from non-ASCII to ASCII

☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.   *1636*

☐ Edited a format error in the Current Application Data section, specifically: *#31*
_____

☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other _____.

☐ Added the mandatory heading and subheadings for "Current Application Data".

☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically:
_____

☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:
_____

☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:
_____

☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

☐ Inserted colons after headings/subheadings. Headings edited included:
_____

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JUN 0 4 2002

TECH CENTER 1600/2900

☐ Deleted extra, invalid, headings used by an applicant, specifically:
_____

☑ Deleted: ☑ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as_____ .

☐ Inserted mandatory headings, specifically: _____

☐ Corrected an obvious error in the response, specifically:
_____

☐ Edited identifiers where upper case is used but lower case is required, or vice versa.

☐ Corrected an error in the Number of Sequences field, specifically:
_____

☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____
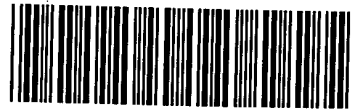
☐ Other:
_____
_____
_____

***Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.**   3/1/95

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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/359,300A

DATE: 05/22/2002
TIME: 17:12:54

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF3\05222002\I359300A.raw

P.6

```
 4 <110> APPLICANT: KUMAGAI. Monto H.
 5         DELLA-CIOPPA, Guy R.
 6         ERWIN, Robert L.
 7         McGEE, David R.
 9 <120> TITLE OF INVENTION: METHOD OF COMPILING A FUNCTIONAL GENE PROFILE BY
TRANSFECTING A NUCLEIC
10         ACID SEQUENCE OF A NON-PLANT DONOR INTO A HOST PLANT IN A POSITIVE SENSE
11         ORIENTATION
13 <130> FILE REFERENCE: 008010137US07
15 <140> CURRENT APPLICATION NUMBER: 09/359,300A
C--> 16 <141> CURRENT FILING DATE: 2002-04-29
18 <160> NUMBER OF SEQ ID NOS: 71
20 <170> SOFTWARE: FastSEQ for Windows Version 3.0
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 26
24 <212> TYPE: DNA
25 <213> ORGANISM: Tomato mosaic virus
27 <400> SEQUENCE: 1
28   ctcgcaaagt ttcgaaccaa atcctc                                              26
30 <210> SEQ ID NO: 2
31 <211> LENGTH: 35
32 <212> TYPE: DNA
33 <213> ORGANISM: Tomato mosaic virus
35 <400> SEQUENCE: 2
36   cggggtacct gggccccaac cgggggttcc ggggg                                   35
38 <210> SEQ ID NO: 3
39 <211> LENGTH: 41
40 <212> TYPE: DNA
41 <213> ORGANISM: Tomato mosaic virus
43 <400> SEQUENCE: 3
44   tcctcgagcc taggctcgca aagtttcgaa ccaaatcctc a                           41
46 <210> SEQ ID NO: 4
47 <211> LENGTH: 35
48 <212> TYPE: DNA
49 <213> ORGANISM: Tomato mosaic virus
51 <400> SEQUENCE: 4
52   cggggtacct gggccccaac cgggggttcc ggggg                                   35
54 <210> SEQ ID NO: 5
55 <211> LENGTH: 24
56 <212> TYPE: DNA
57 <213> ORGANISM: Tomato mosaic virus
59 <400> SEQUENCE: 5
60   tatgtatggt gcagaagaac agat                                               24
62 <210> SEQ ID NO: 6
```

```
 63 <211> LENGTH: 24
 64 <212> TYPE: DNA
 65 <213> ORGANISM: Tomato mosaic virus
 67 <400> SEQUENCE: 6
 68  agtcgactct tcctcttctg gcat                                    24
 70 <210> SEQ ID NO: 7
 71 <211> LENGTH: 30
 72 <212> TYPE: DNA
 73 <213> ORGANISM: Tomato mosaic virus
 75 <400> SEQUENCE: 7
 76  tgctcgagtg tgttcttcag ttttctgtca                              30
 78 <210> SEQ ID NO: 8
 79 <211> LENGTH: 30
 80 <212> TYPE: DNA
 81 <213> ORGANISM: Tomato mosaic virus
 83 <400> SEQUENCE: 8
 84  aactcgagcg ctttgatttc tccgaagctt                              30
 86 <210> SEQ ID NO: 9
 87 <211> LENGTH: 114
 88 <212> TYPE: DNA
 89 <213> ORGANISM: Tomato mosaic virus
 91 <220> FEATURE:
 92 <221> NAME/KEY: CDS
 93 <222> LOCATION: (28)...(115)
 95 <400> SEQUENCE: 9
 96  gttttaaata cgctcgaggt tttaaat atg tct gtt gcc ttg tta tgg gtt gtt   54
 97                                 Met Ser Val Ala Leu Leu Trp Val Val
 98                                  1               5
100  tct cct tgt gac gtc tca aat ggg aca agt ttc atg gaa tca gtc cgg   102
101  Ser Pro Cys Asp Val Ser Asn Gly Thr Ser Phe Met Glu Ser Val Arg
102   10              15                  20                  25
104  gag gga aac cgt
105  Glu Gly Asn Arg                                                114
109 <210> SEQ ID NO: 10
110 <211> LENGTH: 29
111 <212> TYPE: PRT
112 <213> ORGANISM: Tomato mosaic virus
114 <400> SEQUENCE: 10
115  Met Ser Val Ala Leu Leu Trp Val Val Ser Pro Cys Asp Val Ser Asn
116   1               5                  10                  15
117  Gly Thr Ser Phe Met Glu Ser Val Arg Glu Gly Asn Arg
118               20                  25
120 <210> SEQ ID NO: 11
121 <211> LENGTH: 39
122 <212> TYPE: DNA
123 <213> ORGANISM: Nicotiana benthamiana
125 <400> SEQUENCE: 11
126  gcctcgagtg cagcatggaa acccttctaa agcttttcc                     39
128 <210> SEQ ID NO: 12
```

W--> (line 93 marker)

```
129 <211> LENGTH: 36
130 <212> TYPE: DNA
131 <213> ORGANISM: Nicotiana benthamiana
133 <400> SEQUENCE: 12
134   tccctaggtc aaaggctctc tattgctaga ttgccc                        36
136 <210> SEQ ID NO: 13
137 <211> LENGTH: 111
138 <212> TYPE: DNA
139 <213> ORGANISM: Tobacco mosaic virus
141 <220> FEATURE:
142 <221> NAME/KEY: CDS
143 <222> LOCATION: (25)...(111)
145 <400> SEQUENCE: 13
146   gttttaaata cgctcgagtg cagc atg gaa acc ctt cta aag cct ttt cca   51
147                             Met Glu Thr Leu Leu Lys Pro Phe Pro
148                              1           5
150   tct cct tta ctt tcc att cct act cct aac atg tat agt ttc aaa cac   99
151   Ser Pro Leu Leu Ser Ile Pro Thr Pro Asn Met Tyr Ser Phe Lys His
152    10           15            20                25
154   aac ttc act ttt                                                111
155   Asn Phe Thr Phe
159 <210> SEQ ID NO: 14
160 <211> LENGTH: 29
161 <212> TYPE: PRT
162 <213> ORGANISM: Tobacco mosaic virus
164 <400> SEQUENCE: 14
165   Met Glu Thr Leu Leu Lys Pro Phe Pro Ser Pro Leu Leu Ser Ile Pro
166    1           5                 10            15
167   Thr Pro Asn Met Tyr Ser Phe Lys His Asn Phe Thr Phe
168              20            25
170 <210> SEQ ID NO: 15
171 <211> LENGTH: 44
172 <212> TYPE: DNA
173 <213> ORGANISM: Erwinia herbicola
175 <400> SEQUENCE: 15
176   ccaagcttct cgagtgcagc atgcagcaac cgccgctgct tgac               44
178 <210> SEQ ID NO: 16
179 <211> LENGTH: 43
180 <212> TYPE: DNA
181 <213> ORGANISM: Erwinia herbicola
183 <400> SEQUENCE: 16
184   aagatctctc gagctaaacg ggacgctgcc aaagaccggc cgc                43
186 <210> SEQ ID NO: 17
187 <211> LENGTH: 23
188 <212> TYPE: DNA
189 <213> ORGANISM: Tobacco mild green mosaic virus
191 <400> SEQUENCE: 17
192   tgtgaaactc gaaaaggttc cgg                                      23
194 <210> SEQ ID NO: 18
```

RAW SEQUENCE LISTING   DATE: 05/22/2002
PATENT APPLICATION: US/09/359,300A   TIME: 17:12:54

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF3\05222002\I359300A.raw

```
195 <211> LENGTH: 36
196 <212> TYPE: DNA
197 <213> ORGANISM: Tobacco mild green mosaic virus
199 <400> SEQUENCE: 18
                                                                    36
200  cggggtacct gggccgctac cggcggttag gggagg
202 <210> SEQ ID NO: 19
203 <211> LENGTH: 31
204 <212> TYPE: DNA
205 <213> ORGANISM: Ribgrass mosaic virus
207 <400> SEQUENCE: 19
                                                                    31
208  tactcgaggt tcataagacc gcggtaggcg g
210 <210> SEQ ID NO: 20
211 <211> LENGTH: 36
212 <212> TYPE: DNA
213 <213> ORGANISM: Ribgrass mosaic virus
215 <400> SEQUENCE: 20
                                                                    36
216  cggggtacct gggcccctac ccggggttta gggagg
218 <210> SEQ ID NO: 21
219 <211> LENGTH: 107
220 <212> TYPE: DNA
221 <213> ORGANISM: N. tabacum
223 <220> FEATURE:
224 <221> NAME/KEY: CDS
225 <222> LOCATION: (21)...(107)
227 <400> SEQUENCE: 21
228  gttttaaata cgctcgagcc atg gct tcc tca gtt ctt tcc tct gca gca gtt    53
229                      Met Ala Ser Ser Val Leu Ser Ser Ala Ala Val
230                       1           5                  10
232  gcc acc cgc agc aat gtt gct caa gct aac atg gtt gca cct ttc act   101
233  Ala Thr Arg Ser Asn Val Ala Gln Ala Asn Met Val Ala Pro Phe Thr
234            15              20              25
236  ggc ctt                                                          107
237  Gly Leu
241 <210> SEQ ID NO: 22
242 <211> LENGTH: 29
243 <212> TYPE: PRT
244 <213> ORGANISM: N. tabacum
246 <400> SEQUENCE: 22
247  Met Ala Ser Ser Val Leu Ser Ser Ala Ala Val Ala Thr Arg Ser Asn
248   1           5                  10                  15
249  Val Ala Gln Ala Asn Met Val Ala Pro Phe Thr Gly Leu
250            20              25
252 <210> SEQ ID NO: 23
253 <211> LENGTH: 1543
254 <212> TYPE: DNA
255 <213> ORGANISM: Tobacco mild green mosaic virus
257 <400> SEQUENCE: 23
258  ctcgaggttc ataagaccgc ggtaggcgga gcgtttgttt actgtagtat aattaaatat    60
259  ttgtcagata aaaggttgtt taaagatttg tttttgttt gactgagtcg ataatgtctt   120
```

RAW SEQUENCE LISTING   DATE: 05/22/2002
PATENT APPLICATION: US/09/359,300A   TIME: 17:12:54

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF3\05222002\I359300A.raw

```
260  acgagcctaa agttagtgac ttccttgctc ttacgaaaaa ggaggaaatt ttacccaagg  180
261  ctttgacgag attaaagact gtctctatta gtactaagga tgttatatct gttaaggagt  240
262  ctgagtccct gtgtgatatt gatttgttag tgaatgtgcc attagataag tataggtatg  300
263  tgggtgtttt gggtgttgtt ttcaccggtg aatggctggt accggatttc gttaaaggtg  360
264  gggtaacagt gagcgtgatt gacaaacggc ttgaaaattc cagagagtgc ataattggta  420
265  cgtaccgagc tgctgtaaag gacagaaggt tccagttcaa gctggttcca aattacttcg  480
266  tatccattgc ggatgccaag cgaaaaccgt ggcaggttca tgtgcgaatt caaaatctga  540
267  agatcgaagc tggatggcaa cctctagctc tagaggtggt ttctgttgcc atggttacta  600
268  ataacgtggt tgttaaaggt ttgagggaaa aggtcatcgc agtgaatgat ccgaacgtcg  660
269  aaggtttcga aggtgtggtt gacgatttcg tcgattcggt tgctgcattc aaggcgattg  720
270  acagtttccg aaagaaaaag aaaaagattg gaggaaggga tgtaaataat aataagtata  780
271  gatatagacc ggagagatac gccggtcctg attcgttaca atataaagaa gaaaatggtt  840
272  tacaacatca cgagctcgaa tcagtaccag tatttcgcag cgatgtgggc agagcccaca  900
273  gcgatgctta accagtgcgt gtctgcgttg tcgcaatcgt atcaaactca ggcggcaaga  960
274  gatactgtta gacagcagtt ctctaacctt ctgagtgcga ttgtgacacc gaaccagcgg 1020
275  tttccagaaa caggataccg ggtgtatatt aattcagcag ttctaaaacc gttgtacgag 1080
276  tctctcatga agtcctttga tactagaaat aggatcattg aaactgaaga agagtcgcgt 1140
277  ccatcggctt ccgaagtatc taatgcaaca caacgtgttg atgatgcgac cgtggccatc 1200
278  aggagtcaaa ttcagctttt gctgaacgag ctctccaacg gacatggtct gatgaacagg 1260
279  gcagagttcg aggttttatt accttgggct actgcgccag ctacataggc gtggtgcaca 1320
280  cgatagtgca tagtgttttt ctctccactt aaatcgaaga gatatactta cggtgtaatt 1380
281  ccgcaagggt ggcgtaaacc aaattacgca atgttttagg ttccatttaa atcgaaacct 1440
282  gttatttcct ggatcacctg ttaacgtacg cgtggcgtat attacagtgg gaataactaa 1500
283  aagtgagagg ttcgaatcct ccctaacccc gggtaggggc cca                    1543
```

285 <210> SEQ ID NO: 24
286 <211> LENGTH: 55
287 <212> TYPE: DNA
288 <213> ORGANISM: rape mosaic virus

290 <400> SEQUENCE: 24

```
291  gatggcgcct taatacgact cactatagtt ttatttttgt tgcaacaaca acaac        55
```

293 <210> SEQ ID NO: 25
294 <211> LENGTH: 30
295 <212> TYPE: DNA
296 <213> ORGANISM: rape mosaic virus

298 <400> SEQUENCE: 25

```
299  cttgtgccct tcatgacgag ctatatcacg                                    30
```

301 <210> SEQ ID NO: 26
302 <211> LENGTH: 497
303 <212> TYPE: DNA
304 <213> ORGANISM: rape mosaic virus

306 <400> SEQUENCE: 26

```
307  ccttaatacg actcactata gttttatttt tgttgcaaca acaacaacaa attacaataa   60
308  caacaaaaca aatacaaaca acaacaacat ggcacaattt caacaaacag taaacatgca  120
309  aacattgcag gctgccgcag ggcgcaacag cctggtgaat gatttagcct cacgacgtgt  180
310  ttatgacaat gctgtcgagg agctaaatgc acgctcgaga cgccctaagg ttcattactc  240
311  caaatcagtg tctacggaac atgacgctgt tagcttcaaa cgcttatccg gagtttgaga  300
312  tttcctttac tcatacccaa catgccgtac actcccttgc gggtggccta aggactcttg  360
313  agttagagta tctcatgatg caagttccgt tcggttctct gacgtacgac atcggtggta  420
314  actttgcagc gcaccttttc aaaggacgcg actacgttca ctgctgtatg ccaaacttgg  480
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 05/22/2002
PATENT APPLICATION: US/09/359,300A   TIME: 17:12:55

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF3\05222002\I359300A.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:63; N Pos. 6
Seq#:64; N Pos. 7
Seq#:67; N Pos. 7,10
Seq#:68; N Pos. 7,10,13,16